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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Charles Nicolas Granville Charlesworth

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EXAMINER

BOLOTIN, DMITRIY

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

04/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,458

Applicant(s)

CHARLESWORTH, CHARLES
NICOLAS GRANVILLE

Examiner

Dmitriy Bolotin

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>04/04/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the control means which includes adjustment means to allow fine manual and/or automatic adjustment, the focusing means to focus or direct the light generated by the display screen onto the optical sensor, and the optical sensor which is detachably mounted to the viewing device** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

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is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

1. **Claims 1 – 11 and 13 – 24** are objected to because of the following informalities: the word "*characterised*" should be replaced with word --characterized--.
2. **Claims 1 and 25** are objected to because of the following informalities: the word "*synchronisation*" should be replaced with word --synchronization--.
3. **Claim 8** is objected to because of the following informalities: the word "*colours*" on line 2 should be replaced with word --colors--.
4. **Claim 8** is objected to because of the following informalities: the word "*white*" on line 3 should be replaced with word --right--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 3 – 11, 17 – 22, 25 and 26** are rejected under 35 U.S.C. 102(b) as being anticipated by Draaijer et al. (WO 98/38803).

As to **claim 1**, Draaijer discloses a viewing device for viewing a video display on a display screen (apparatus shown in figure 4) which display includes the sequential display of right and left video images (alternatively displaying two different images to create a 3-D image, page 2, lines 1 – 12), said viewing device including first and second, spaced, viewing structures (3-D viewing glasses comprise two controllable shutters SH1 and SH2 of fig. 4 in front of viewers left and right eye, page 4, lines 22 - 24), such that a first viewing structure (SH1 of fig. 4) is positioned in front of the viewer's left eye (LE of fig. 4) and a second viewing structure (Sh2 of fig. 4) is positioned in front of the viewer's right eye (RE of fig. 4) with the viewer being required to look through the structures (3-D glasses GLS of fig. 4) to view the video display (screen SCR of fig. 4), each structure provided to be operable to change between a viewing condition and a masking condition (shutters comprise liquid crystal, which can be switched between transparent and opaque state, page 6, lines 21 – 29) and characterized in that a feature

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of a predefined format is displayed in the sequence of video images (indicator IND displayed on the screen, page 3, lines 15 – 19) which can be detected to allow synchronization of the operation of the viewing structures and the display of the images on the display screen (indicator provides information to which eye the images should be passed, page 3, lines 15 – 19).

As to **claim 3** (dependent on 1), Draaijer discloses a viewing device, characterized in that each viewing structure construction is a screen which is configurable between substantially opaque and transparent conditions (shutters comprise liquid crystal, which can be switched between transparent and opaque state, page 6, lines 21 – 29).

As to **claim 4** (dependent on 1), Draaijer discloses a viewing device, characterized in that the viewing device or associated components may be powered by batteries, mains power, or a combination thereof (shutter controller comprises an energy source ENS of fig. 6 such as a battery, page 6, line 34 - page 7, line 2).

As to **claim 5** (dependent on 1), Draaijer discloses a viewing device according, characterized in that the viewing device is capable of being worn (3-D glasses GLS of fig. 4).

As to **claim 6** (dependent on 1), Draaijer discloses a viewing device, characterized in that the feature is a substantially black image with a predefined marking element, and/or an overlying reference element (overlying reference elements SP1 and SP2 as shown in fig. 2).

As to **claim 7** (dependent on 6), Draaijer discloses a viewing device, characterized in that the reference element is located in a corner of the image (as shown in fig. 1, indicator IND is placed in the corner of the image).

As to **claim 8** (dependent on 6), Draaijer discloses a viewing device, characterized in that the reference element is any combination of colors and/or shapes to distinguish between left and right images (such as spots SP1 and SP2 of fig. 2).

As to **claim 9** (dependent on 6), Draaijer discloses a viewing device, characterized in that the image of predefined format replaces the right or left hand image of a video stereo pair (as shown in fig. 3, each image includes an indicator IND of fig. 3, and the difference between the left and the right images is indicated by the position of characters SP1 and SP2 shown in fig. 2).

As to **claim 10** (dependent on 1), Draaijer discloses a viewing device, characterized in that the feature is generated at adjustable time intervals (the indicator IND is generated during the last two lines of every frame as shown in fig. 3, inherently the time interval at which the indicator is generated depends on the frame rate of the images displayed).

As to **claim 11** (dependent on 1), Draaijer discloses a viewing device, characterized in that at least one viewing structure (shutters Sh1 and Sh2 of fig. 4) is provided with an optical sensor (opto-electric transducer OET, page 8, lines 10 – 15) to detect the display of the feature (page 8, lines 10 – 18).

As to **claim 17** (dependent on 11), Draaijer discloses a viewing device, characterized in that the optical sensor includes control means (controller CON of fig. 4), producing a control signal in response to detection of the feature (pulses P in signals St1 and St2 of fig. 5b and 5c), to control the viewing structures (shutters SH1 and SH2 of fig. 4).

As to **claim 18** (dependent on 11), Draaijer discloses a viewing device, characterized in that the viewing device includes communication means for allowing communication between the optical device and other components of the viewing device (communication cable CC of fig. 4 is used for communicating between transducer OET and controller CON of fig. 4).

As to **claim 19** (dependent on 18), Draaijer discloses a viewing device, characterized in that the communication means includes wires, optical means, radio frequencies, infra-red, or any combination thereof (communication cable CC of fig. 4).

As to **claim 20** (dependent on 17), Draaijer discloses a viewing device, characterized in that the control signal is used to identify a right or left image to allow synchronization of the viewing structures to the images (pulses P in signals St1 and St2 of fig. 5b and 5c, page 5, line 34 – page 6, line 7).

As to **claim 21** (dependent on 17), Draaijer discloses a viewing device, characterized in that the control signal is used to determine the display rate of each successive video image and control the activation timing and frequency of the viewing structures (pulses P in signals St1 and St2 of fig. 5b and 5c indicating to the shutter

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controller that a new image is about to be formed for a different eye, page 5, line 34 – page 6, line 7).

As to **claim 22** (dependent on 17), Draaijer discloses a viewing device, characterized in that the control means act in a predictive and self-correcting manner to determine the activation timing and frequency of the viewing structures (pulses indicating new frame and change of viewers eye are only passed upon detection of the indicator, page 5, line 34 – page 6, line 7).

As to **claim 25**, Draaijer discloses a viewing device for viewing a sequential display of right and left video images to generate a three dimensional effect (alternatively displaying two different images to create a 3-D image, page 2, lines 1 – 12), said viewing device including first and second, spaced, viewing structures (shutters SH1 and SH2 of fig. 4) such that, in use, a first viewing structure (shutter SH1 of fig. 4) is positioned in front of the viewer's left eye (LE of fig. 4) and a second viewing structure (shutter SH2 of fig. 4) is positioned in front of the viewer's right eye (RE of fig. 4) with the viewer being required to look through the structures (3-D glasses GLS of fig. 4) to view the video display (screen SCR of fig. 4), each structure provided with an LCD screen (shutters comprise liquid crystal, page 6, lines 21 – 29) and control means (controller CON of fig. 4) to change the LCD screen between substantially transparent and substantially opaque conditions (shutters comprise liquid crystal, which can be switched between transparent and opaque state, page 6, lines 21 – 29) and wherein at least one feature of a predefined format is displayed (indicator IND displayed on the screen, page 3, lines 15 – 19) and is of a form which can be detected by a sensor

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(transducer OET of fig. 4) and allows synchronization of the viewing device operation with the display of the images on the display screen (indicator provides information to which eye the images should be passed, page 3, lines 15 – 19).

As to **claim 26**, Draaijer discloses a method for viewing a series of left and right video images to create to the user a three-dimensional effect (alternatively displaying two different images to create a 3-D image, page 2, lines 1 – 12), said method comprising the steps of; generating a sequence of left and right video images on a display screen (alternating frames of images one for the right eye and one for the left eye, page 5, lines 22 – 33); placing a viewing device (3-D glasses GLS of fig. 4) between the user's eyes (LE and RE of fig. 4) and the display screen (screen SCR of fig. 4), said device including viewing structures for the user's left and right eye respectively (shutter SH1 for left eye LE of fig. 4 and shutter SH2 for right eye RE of fig. 4); operating each of the viewing structures to move between open and masked conditions to allow selective viewing of the video images in sequence with the display of the same (shutters comprise liquid crystal, which can be switched between transparent and opaque state, page 6, lines 21 – 29); and wherein the video images include at least one feature of a predefined format (indicator IND displayed on the screen, page 3, lines 15 – 19) which can be detected by a sensor (transducer OET of fig. 4) and, when detected, the same is used to check and, if required, alter the synchronicity between the operation of the viewing structures and the display of the video images (pulses indicating new frame and change of viewers eye are only passed upon detection of the indicator, page 5, line 34 – page 6, line 7).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Draaijer in view of Kilian (US 5,245,319).

As to **claim 2** (dependent on 1), Draaijer fails to disclose a viewing device, characterized in that the feature is subliminal.

In the same field of endeavor, Kilian discloses a viewing device, characterized in that the feature is subliminal (encoded signal may not be visible to a user, col. 3, lines 53 – 56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Draaijer by displaying a feature which is below the threshold of perception of a user as disclosed by Kilian, so as not to distract a user from viewing the content on the display device.

9. **Claims 13 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Draaijer.

As to **claim 13** (dependent on 11), Draaijer discloses a viewing device, characterized in that the optical sensor is detachable (OET shown in fig. 4 not attached to glasses GLS of fig. 4) or mounted onto the glasses (page 5, lines 8 – 12).

Draaijer is silent about the optical sensor detachably mounted to the viewing device by reusable adhesive, clamps, grips, clips, screws, hook and loop fastenings, or any combination thereof.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the optical sensor detachably mounted to the viewing device, since such modification would allow a user an alternative between the two options disclosed by Draaijer and would have been within the skill of an artisan.

As to **claim 14** (dependent on 11), Draaijer discloses a viewing device, characterized in that the optical sensor (OET of fig. 4) is provided with a housing (controller CON of fig. 4 is combined with transducer OET of fig. 4, page 7, lines 26 – 29).

Draaijer is silent about the housing which is configured to ensure that the optical sensor is automatically positioned so as to directly face the display screen.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention that when the optical sensor is attached to the glasses, as disclosed by Draaijer (page 5, lines 8 – 12), the sensor would automatically face the display screen, since the user utilizes the glasses to view said display screen.

10. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Draaijer in view of Vanasse et al. (US 5,189,554).

As to **claim 15** (dependent on 11), Draaijer discloses a viewing device, characterized in that the optical sensor includes focusing means to focus or direct the light generated by the display screen onto the optical sensor and/or reduce the field of view of the optical sensor to eliminate or reduce the possibility of adverse light effects provided by any other light sources.

In the same field of endeavor, Vanasse discloses a viewing device, characterized in that the optical sensor (detector or array of detectors, col. 3, lines 56 – 66) includes focusing means (optical system, col. 3, lines 56 – 66) to focus or direct the light generated by the display screen (to define the field of view, col. 3, lines 56 – 66) onto the optical sensor (detector or array of detectors, col. 3, lines 56 – 66) and/or reduce the field of view of the optical sensor to eliminate or reduce the possibility of adverse light effects provided by any other light sources (reduce the level of off-axis radiation, col. 3, lines 56 – 66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Draaijer by providing focusing means for the optical sensor, so as to reduce the level of unwanted off-axis radiation delivered to the detector (Vanasse, col. 3, lines 24 – 27).

11. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Draaijer in view of Wang et al. (US 5,742,263).

As to **claim 16** (dependent on 11), Draaijer fails to disclose a viewing device, characterized in that the optical sensor scans a greater area than the area defined by the feature.

In the same field of endeavor, Wang discloses a viewing device, characterized in that the optical sensor (44 of fig. 2) scans a greater area (field of view 48 of fig. 2) than the area defined by the feature (barcode 58 of fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a wider field of view optical sensor than the area defined by the feature in the device of Draaijer, so as to allow the user to detect the feature without a restriction on the angular position of the detector (Wang, col. 4, lines 13 – 18).

12. **Claims 23 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Draaijer in view of Marcy, III (US 5,452,026).

As to **claim 23** (dependent on 17) and **claim 24** (dependent on 23), Draaijer fails to disclose a viewing device, characterized in that the control means include adjustment means to allow fine manual and/or automatic adjustment of the same and in that the adjustment means are in the form of one or more wheels for rotation by a user.

In the same field of endeavor, Marcy, III discloses a viewing device (vision device 10 of fig. 1), characterized in that the control means (control apparatus 16 of fig. 1)

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include adjustment means (variable timing resistor 24 of fig. 2) to allow fine manual and/or automatic adjustment of the same (by turning the knob 18 of fig. 1) and in that the adjustment means (variable timing resistor 24 of fig. 2) are in the form of one or more wheels for rotation by a user (adjustment knob 18 of fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Draaijer by adding the timing adjustment knob disclosed by Marcy, III, so as to variably adjust the timing of the shutters based on individual characteristics of vision of each particular user (Marcy, III, col. 4, lines 18 – 25).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitriy Bolotin whose telephone number is (571)270-5873. The examiner can normally be reached on Monday-Friday, 8:00 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571)272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. B./

Examiner, Art Unit 2629

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629